WE CLAIM

1. A method of manufacturing an ink jet printhead, the method comprising the steps of:

depositing a layer of etch stop material on a front side of a wafer substrate;

etching the wafer substrate up to the etch stop material to define a plurality of nozzle chambers and so that portions of the etch stop layer define roof walls for respective nozzle chambers; and

etching each said portion to form at least one ink ejection port in each said portion.

2. A method as claimed in claim 1, which includes the step of fabricating, with integrated circuit fabrication techniques, drive circuitry on a back side of the wafer substrate.

3. A method as claimed in claim 2, which includes the step of fabricating, with integrated circuit fabrication techniques, a plurality of actuators so that an actuator is electrically connected to the drive circuitry and is operatively positioned with respect to each nozzle chamber.

4. An ink jet printhead chip that is manufactured in accordance with an integrated circuit fabrication technique, the printhead chip comprising

a wafer substrate that defines a plurality of nozzle chambers as a result of an etching process;

an etch stop layer positioned on a front side of the wafer substrate so that portions of the etch stop layer define a roof wall for each nozzle chamber, each said portion defining at least one ink ejection port, also a result of an etching process carried out on each portion; and

a plurality of actuators arranged on a back side of the wafer substrate, each actuator being operatively positioned relative to each respective nozzle chamber to eject ink from the nozzle chambers.

5. An ink jet printhead chip as claimed in claim 4, which defines a micro electro-mechanical system.

6. An ink jet printhead chip as claimed in claim 4, which includes a drive circuitry layer that is positioned on a back side of the wafer substrate, the actuators being electrically connected to the drive circuitry layer.

7. An ink jet printhead chip as claimed in claim 6, in which each actuator includes at least one ink displacement member that is positioned with respect to the wafer substrate and incorporates a drive mechanism to drive the, or each, ink displacement member at least partially into its respective nozzle chamber to eject ink from the nozzle chamber, on receipt of an actuating signal from drive circuitry within the drive circuitry layer.

8. An ink jet printhead chip as claimed in claim 6, in which the wafer substrate defines a plurality of ink inlets, each ink inlet being in fluid communication with a respective nozzle chamber.

9. An ink jet printhead chip as claimed in claim 8, in which each actuator includes an ink displacement member that is positioned in each respective inlet and incorporates a drive mechanism to drive the ink displacement member at least partially into its respective nozzle chamber to eject ink from the nozzle chamber on receipt of an actuating signal from drive circuitry within the drive circuitry layer.